Economic Impacts of Apache-Sitgreaves National Forests Public Land Ranching

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BACKGROUND AND PURPOSE

In 1995, the Springerville and Alpine Ranger Districts of the Apache-Sitgreaves (A/S) National Forest did National Environmental Policy Act (NEPA) analysis to provide information to make decisions about changes in grazing permits. The permittees and County governments, among others, asked that a more in-depth analysis of social and economic factors be conducted. The Forest Service did not have sufficient data, nor resources available to collect data.

In 1997, the Forest Service began NEPA analysis on 24 additional allotments to guide decisions about allotment management plans. Because there still were not sufficient data to conduct an in-depth economic analysis, this survey was developed to provide data for an economic analysis of ranching operations, and to estimate some of the impacts of ranching on local and regional communities. The School of Agribusiness and Environmental Resources of Arizona State University conducted an economic impact study of cattle ranching operations across the state of Arizona (Seperich, Woolverton, and Brady, 1989). They mailed a survey to 603 cattle ranch owners/operators across the state. The ID team received a sumary of the ASU methods and results, and consented to the methods and some pertinent questions used in this research survey.

METHODS

Rather than collect data only from the permittees whose allotments were being analyzed during the allotment management plan (AMP) process, it was decided to mail the surveys to all grazing permittees on the Forest. In this way we could assure respondents would be anonymous, and personal information about financial situations would be protected. Additionally, by surveying all ranchers, we believed results would provide valid averages for permittee operations on the A/S. No distinction was made between corporate and family ranches. Respondents were asked to consider their entire ranching operation, and to provide answers that reflected their usual operations, not drought-caused sell offs or values affected by either high or low markets.

During July, 1997, surveys were mailed to each of the 96 Apache-Sitgreaves National Forest grazing permittees. Each survey was accompanied by a return addressed, postage paid envelope. About August 5, 1997, a post card was mailed to the permittees to remind them to return the surveys. All of the surveys were returned in the envelopes provided, so it seems unlikely that any interest group deliberately biased results. Unreadable answers were excluded, and mathematical errors made by respondents were corrected.

Because of differences in value between breeds, animal sizes, and ages, average livestock values given below were determined by using dollar values weighted by the number of animals. No comparisons were made between reported allotment size and Forest Service records because the surveys were returned anonymously.

Averages were determined, and those averages were are presented to help project Forest-wide values and impacts. In order to determine the economic impact of ranching dollars spent, several assumptions were made. First, it was assumed that the responses received were representative of all A/S grazing permittee operations. Second, it was assumed that most of the

dollars were spent in the Arizona communities closest to the ranches. Third, we assumed that a dollar spent in a rural community would leave that economic system rather quickly. It is widely accepted that there is a multiplier effect for each dollar spent in an economic system. For example, a rancher spends a dollar in a local restaurant. The waitress spends the rancher's dollar to pay for groceries. The grocer spends the dollar to pay his butcher. The butcher spends the dollar for gasoline. Eventually the dollar leaves the local economy, breaking the chain. But the point is clear that a dollar spent stimulates an economy by more than one dollar. According to economic theory, the multiplier could be as much as 20 for after-tax dollars, and in similar studies, a multiplier of five or six is used. In this study, as in the Seperich et al. study, a multiplier of three was used to be a conservative estimate of economic impact. Fourth, although we recognize dollars spent may leave the local community, they probably would stay in the state for a time, but no attempt was made to estimate that additional impact. Because collected information represents, at best, only 30.2% of all A/S grazing permittees, some totals have been computed to reflect the impact of all 96 operations.

RESULTS

General

As of August 19, 1997, 29 surveys had been returned, out of 96 mailed, for a return rate of 30.2%. Appendix 1 contains a copy of the survey form used, with a summary of data collected. Respondents reported ranching for an average of 40.2 years. They also reported that they or members of their family had operated a ranch in Arizona for an average of 77.6 years, with a range of 8 years to 125 years.

Livestock Production

Ranchers were asked to indicate the average number of animals they owned as of May 15 for the last five years, and to give an average dollar value for each animal.

Two of the 29 responders (7%) reported owning a total of 5,060 sheep with an average value of $124 each. Horses were not included on the menu list of livestock classes, but 35% of the ranchers reported owning horses with an average value of $2,169 per animal. The range of horse values was $1,200 to $4,500 each, probably due to different breeds, ages, and sexes.

Twenty-seven of 29 responders (93%) reported owning both bulls and cows. They reported an average of 16 bulls (range 1 to 80) and 213 cows (range 3 to 800) per operation. Bulls were valued at an average of $1,357 (range $500 to $2,000) and cows were $577 (range $400 to $800).

Most responders (25/29 or 86%) reported owning an average of 156 calves per operation (range 5-640) for a total of 3889 calves. The average calf value was $308, with a range of $100 to $400 each. More than 75% of the survey responders (22/29) said they owned an average 40 heifers (range 2 to 200), with an average value of $484 (range $270 to $750). Sixteen responders (55%) reported owning yearlings on May 15. The average number of yearlings held was 100, with a range of 4 to 650. Yearlings were valued between $300 and $600 each, with an average of $434.

The estimated total value of all livestock in current operations as of an average May 15, is computed to be approximately $21,227,000.

LAND USES

Figure 1 shows the value per acre ranchers place on various categories of land. Figure 2 shows the management agency/ownership of land used by A/S permittees. Respondents indicated they used a total of 37,175 acres of their own deeded land in their ranch operations. They valued their deeded property at a total of $22,198,600, or an average of $597 per acre. Twelve respondents indicated leasing or renting a total of 14,970 acres of private lands for their ranching operation. They value those leases at $452 per acre. Fifteen responders reported using 111,153 acres of state land, and value those leases at $32 per acre. (However, an Arizona judicial decision made after most surveys were returned may alter those valuations.) Only four of the respondents indicated they used BLM permits in their ranching operation, for a total of 11,520 acres with a fair market value of $13 per acre. They reported using Forest grazing allotments totalling 697,336 acres, with an average fair market value of $7 per acre.

The estimated total value of private (deeded) land in use by all A/S permittees is computed to be $73,505,290.

EMPLOYEES

Full time employees

Respondents reported that they employed a total of 45 family members full time in the operation, management or business of their ranches, and the average salary or draw for each employee was $17,624/year. An additional 30 non-family full-time employees were reported, with an average salary of $21,173/year. These dollar amounts include all average annual costs for employee salaries and benefits, including the employer-paid portion of social security, workmen's compensation, unemployment insurance, health and/or life insurance, retirement and/or profit sharing, and any other employer-related expenses. Total annual employee expenses related to full-time employees from the respondents was $1,199,741. Computed to adjust for all 96 permittees, full time salaries amount to $3,972,652 per year. Family-member employee salaries ranged from $0 to $40,000/year, non-family employee expenses ranged from $10,000 to $60,000/year.

Part time employees

Twenty-two respondents reported using family members as paid or unpaid part-time employees to help with the ranching operations. They reported a total of 108 part-time employees (average 5 persons per operation), but listed salary for only 75. The average annual salary for part-time family employees was $5,633. Non-family part-time employees (all paid) accounted for an additional 24 jobs, with an average annual salary of $6,300. Total employee expenses reported by respondents was $300,800/year. When adjusted to account for all 96 ranches, part-time employee salary expenses were computed to be $996,026 per year.

GROSS INCOME

Respondents were asked to provide the dollar amount of their ranch-derived gross income, before expenses, for 1995 and 1996. The 25 who responded to the question listed an average gross income for 1995 of $74,048. The total 1995 gross they reported was $1,851,204, computed to $6,129,814 for all 96 ranching operations. The range of annual income reported was $1,200 to $320,000.

Overall ranch-derived income in 1996 was down about 23.5%, to $1,499,381 (computed to $4,964,838 for all 96 operations).Twenty-four responded to the 1996 question, reporting an average income of $62,474 per operation. The range of their responses for 1996 income was $1,400 to $400,000. This total income decrease may be due, at least in part, to a continuing drought that may have affected animal weights, or forced many to reduce their herd size when prices were very low. Sale or development of part of a rancher's private land could also have contributed to income in one or both years.

TAX PAYMENTS

Respondents were asked to indicate their total tax obligations as a result of their ranching operations in each of 1995 and 1996. Only six reported paying a total $37,212 in federal taxes in 1995 and a total $44,397 in 1996. Averaged across all respondents, this amounts to an average 1995 federal tax bill of $1,283 and an average 1996 tax bill of $1,531, more than a 19% increase in federal taxes, at the same time that ranching income was decreasing. 1995 and 1996 federal taxes were computed to be $123,218, and $147,010 respectively, for all 96 operations.

Respondents also reported seeing their average Arizona state income taxes increase from $174 in 1995 to $194 in 1996, an increase of 11%. Only two ranchers indicated that they paid state income tax in a state other than Arizona, for an average of $500 in each of 1995 and 1996.

Total property tax paid on land holdings in 1995 was $24,264 (computed to $80,344) in 1995 and $28,674 (computed to $94,947) in 1996. The 18 respondents who reported 1995 land taxes reported an average bill of $1,348. For 1996, 20 respondents reported an average tax bill for land of $1,434. The average land taxes increased 6.3%. Taken on a $tax/acre basis, the average property tax was $0.941/acre in 1995 and $1.11/acre in 1996.

Additional personal property tax, on property used for the ranch operations, was also reported. This probably includes the Arizona lieu tax for pick ups and other commercial vehicles. (The lieu tax is based on sales price or current values and decreases each year as the vehicle ages.) In 1995 the total paid by respondents was $6,030; in 1996 it was $4,880. The decrease in lieu tax payments probably was due to the increasing age of owned vehicles, and because ranchers deferred purchasing replacement vehicles because of lower annual income, or other cash flow issues. Figure 3 shows the 1996 percentages of all taxes paid to various entities.

EXPENSES

Range Investments

Respondents were asked to estimate a 5-year average annual investment in public land improvements they made on their grazing allotments. Twenty two respondents answered this question, and indicated they spent an average of $10,264/year. When computed to account for all 96 permittees, the average-year total spent for improvements was $985,344. The ranchers

also were asked to give a 5-year average estimate for their investment in the cost of maintaining existing improvements on their public land allotment. Twenty-four respondents indicated spending an average of $10,935 per operation, computed to be a total of $1,049,760/year.

Other expenses

The survey contained a menu of businesses in operation in the region, and asked the ranchers to estimate the number of visits they make to each business type, and to estimate the amount of money they spend purchasing those goods and services each year. Complete details of their responses are contained in Appendix 1. Business types were categorized into five groups. The largest expenditures were made in the "operations" category, which included feed, gasoline, vehicle repairs, hardware and building supply stores, tack stores, banks (not mortgage payments), veterinarians, business travel, and business equipment/supplies, for a total of $435,669 per year. The next category was "food" which included amounts spent at grocery stores, cafes, restaurants, and convenience stores, a total of $181,677 per year. Next was "medical" which included amounts spent for doctors and prescriptions, $50,355. The "retail" category includes clothing, and other expenditures at department stores, gift shops, and other retail businesses, $42,914. Finally, "personal" includes movies, video rentals, and other personal services like barber shops, cleaners, and other, $15,625. Figure 4 shows the percentages of all expenditures that were spent in each of the above categories.

The total reported for direct expenses for respondents was $726,240. Because this information represents, at best, only 30.2% of all A/S grazing permittees, the total direct expenses for all permittees is computed to be $2,404,768, with indirect effects of $7,214,304 per year. Note that expense information was collected only for ranchers and their immediate families; it does not include information about expenses or indirect effects of salaries paid to non-family employees.

÷ 96 = $25,050/permittee indirect expenses

WHAT IF?

The last question asked the ranchers was "What would you do if ranching on public lands ceased?" Because they were asked only to circle their choice from a list of options, we could not distinguish between a first or subsequent choices, so all responses were recorded. However, 47.2% of all answers indicated the respondents would develop their base property. Of interest is that the 17 who said they would do so owned only 42% of the total private land (15,711 of 37,175 acres) reported, but their land was valued at 89% of the total land value reported ($19,703,000 of $22,198,600).

The substantial number of people considering developing their property would have significant impact upon wildlife habitat, recreational opportunity, range improvements, roads, and county or local government infrastructure required to support the development. The proportion who said they would develop their land was more than twice as high as that reported by Seperich et. al. in 1989 (26.5% of their sample), and may be indicative of land values in the White Mountains and near the Apache Sitgreaves National Forest, frustration with regulation, the cattle market, and/or an aging rancher population.

On the other hand, while the ASU study found that 35.6% of their respondents said they would retire, this survey of Apache-Sitgreaves permittees indicates only 7 (19.4% of all responses) would consider retiring if they could not ranch on public lands. We also received five responses that indicated the rancher would move elsewhere to ranch, two said they would move elsewhere to non-ranch employment (urban), and five said they would stay here with non-ranch employment. Their responses are summarized in Figure 5.

ADDITIONAL RANCHER COMMENTS

The respondents tended to fill in the blanks on the survey, and although they were invited to make comments or add additional information, most did not. Their comments, quoted or paraphrased in Appendix 2, give an indication of how committed they are to their career, and how changes in Forest permits could affect the area and the people.

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have declared the Spikedace and the Loach minnow endangered, and they won't allow the county to fix the road up the river. It is very sad when you have an interest in the land and you are shackled by Fish and Wildlife and the Forest Service.

I would retire if I couldn't ranch, but my boys would have to get better jobs.

REFERENCES

Seperich, George, Michael Woolverton and Ward Brady. Arizona cattle industry economic impact (a preliminary study). 1989. School of Agribusiness and Environmental Resources, Arizona State University.